

Submission by the World Bank Group to the ADP | March 30, 2014

Request - *Opportunities for actions with high mitigation potential, including those with adaptation and sustainable development co-benefits*, as referred to in decision 1/CP.19 “Further advancing the Durban Platform”, paragraph 5(a) (ADP).

Information from Parties and admitted observer organizations on the opportunities for actions with high mitigation potential, including those with adaptation and sustainable development co-benefits, as referred to in decision 1/CP.19 “Further advancing the Durban Platform”, paragraph 5(a), including their mitigation benefits, costs, co-benefits and barriers to their implementation and strategies to overcome those barriers, including finance, technology and capacity-building support for mitigation action in developing country Parties. (FCCC/ADP/2013/L.4, paragraph 3, as orally amended2)

Introduction - Decades of development progress are in danger of being rolled back, because of climate change. Current and emerging science tells us that a warmer world will trap millions of people across the developing world in poverty, and push others back into poverty. This is why the World Bank Group (WBG) has made tackling climate change part of its mission, helping recipient countries identify mitigation opportunities and the linkages with co-benefits for resilience, adaptation, sustainable development and growth. The World Bank Group remains fully committed to scale up support to help identify, program, and finance actions with high mitigation potential for the benefit of low carbon and climate resilient development.

WBG efforts to deploy finance and knowledge to deliver climate mitigation - The WBG has scaled up efforts to deploy, leverage, and mobilize finance and knowledge through programs that address gaps, risks, and barriers to climate-resilient development and climate mitigation in response. These efforts are piloting new transformative approaches, and delivering valuable lessons for their broader scale up. Examples of interventions and their benefits include:

- **Clean Technology Fund (CTF)**- A key feature of the CTF is the country tailored investment plan that is integrated into national development goals and serves as an organizing framework for the activities of actors across institutions, stakeholder groups, and sectors. Channeled through the multilateral development banks (MDBs), CTF concessional financing focuses on large-scale, country-initiated projects that put greater emphasis on reducing barriers to private sector participation. An example of a program supported by the CTF is the finance of the first phase of a concentrated solar power (CSP) project in Morocco (up to 160 MW gross), among others, through a public private partnership (PPP). The project will demonstrate the use of this PPP business model for CSP power plant development in Morocco and elsewhere with a view to increasing the generation of power from CSP, reducing greenhouse gas emissions, protecting the local environment, and creating jobs.
- The CTF has also established two Dedicated Private Sector Programs (DPSPs) in 2013 that maintain a strong link to country priorities and program objectives. They have been designed to deliver greater scale and speed in engaging the private sector. Tools have also been identified to better manage local currency risk (such as guarantees to help borrowers access long-term loans in local currencies and to cover the hedging costs for local currency risk in markets where hedging instruments, such as cross

currency swaps, exist). The toolkit will be applied first in South Africa, with potential transactions in other CTF countries.

- **Scaling Up Renewable Energy Program in Low Income Countries (SREP)**, a targeted program of the Strategic Climate Fund (SCF), is scaling up the deployment of renewable energy solutions and expansion of renewables markets in the world's poorest countries. The SREP will help meet growing energy demands. For example in Kenya it will help stimulate the emerging renewables market through the development of 400MW of geothermal power and 3MW of rural wind and solar hybrid systems.
- **Forest Investment Program (FIP)** supports livelihoods (job creation and alternative income sources), climate resilience and biodiversity conservation/improvements. For example, FIP projects with highest mitigation potential are supporting community-based forest management for avoided deforestation (e.g. 1.7 million ha of dry forest lands in Burkina Faso) and wider landscape management projects to support sustainable management of forests and increase of forest carbon stocks (173Mt/CO₂e through an investment program in the Brazilian Cerrado). To date, \$639 million has been pledged for FIP investments.
- **Carbon Partnership Facility (CPF)** focuses on scaling up the Program of Activities (PoA) approach through the Clean Development Mechanism (CDM). Its initial portfolio of PoAs includes solid waste management, renewable energy, energy efficiency, bio-gas and transport. An example is the Solid Waste Management and Carbon Finance Project in Brazil. The original loan is estimated to achieve up to 14.2 million tons of CO₂e over a ten-year period with improved water and soil quality, the potential for better working conditions of informal waste collectors and natural resource savings through recycling and composting. Other examples include the Morocco Municipal Solid Waste Management Program (landfill gas), the Tanzania Renewable Energy Program (small-scale hydro, solar, bio-gas) and the Egypt Vehicle Scrapping and Recycling Program (taxis).
- **Low-Carbon Livable Cities Initiative (LC2)** is a new initiative that seeks to reach 300 of the world's largest developing country cities with planning (including diagnostics such as greenhouse gas inventories, tools to evaluate the emission reduction potential of different investments, and standardized climate-smart investment at the city level) and financing support to plan for smart, sustainable, green, and inclusive growth over the next four years. A recent analysis by World Bank staff found that only about 20 percent of the world's 150 largest cities have even the basic analytics needed for low-carbon planning today and that of the 500 largest developing country cities, only about 4 percent are creditworthy in international financial markets and 20 percent in local markets.

Potential for mitigation and development co-benefits in World Bank's lending portfolio - The World Bank's development lending portfolio includes projects in many high emitting sectors that offer mitigation opportunities, such as transport, energy, agriculture and urban development. Many projects that the World Bank supports serve as examples that illustrate how economic development and climate mitigation can be complementary. Projects that reduce emissions of CO₂ and short-lived

climatepollutants or SLCPs¹ [e.g. black carbon (BC), methane, and hydrofluorocarbons] can also have economic, health, and other social benefits that contribute to making them more sustainable. They can serve as a model for scaling up ambition as demonstrated in two examples presented below.

- **Transportation** – Affordable, low-emissions transport is crucial for development. People need effective transit options for access to jobs, education, and health services; economic activity requires transport of goods. Well-designed and -enforced bus rapid transit (BRT) is a relatively inexpensive way to get people out of high-emitting vehicles and reduce traffic congestion and pollution; such projects have the potential to reduce traffic fatalities and to reduce premature mortality due to air pollution. The investment in more efficient infrastructure can also lead to local job growth and economic productivity.
 - For example, a simulated analysis of 1,000 km of new BRT corridor deployment in 20 or more Indian cities shows that more than 300 tons of BC emissions could be avoided each year, with additional benefits (depending on deployment schedule) including: i) 1,100 to 1,350 reduced traffic fatalities per year; ii) US\$1.6 to 1.9 billion/year in fuel savings; iii) 1.9 to 2.3 million tons/year of CO₂ emissions reduction; iv) US\$6.4 to 8.1 billion in macroeconomic benefits (over 20 years); v) 50,000 to 90,000 short-term jobs rising to 128,000 permanent new jobs; vi) more than 175 avoided deaths annually in India because of improved air quality; vii) more than US\$500 thousand in annual avoided crop losses because of air pollution; viii) 500 million hours/year of time savings because of shortened trips. [See footnote 1].
- **Integrated Solid Waste Management** – In low-income countries, most cities collect less than half of the waste generated, and only half of the collected waste is processed to minimum acceptable environmental and health standards. Locally, improper waste management, especially open dumping and open burning, contaminates water, air, and land; attracts disease vectors; and clogs drains, contributing to flooding. At the global scale, burning waste without proper air pollution controls creates toxic pollutants; improper disposal also pollutes the oceans, threatening ecosystems, fisheries, and tourism.
 - The CAIXA Solid Waste Management and Carbon Finance Project being carried out in Brazil offers a basis for considering the SLCP reduction potential. A simulated scaled-up analysis of the project shows that in addition to the direct climate and carbon finance benefits of this project (US\$300 to 560 million/year at US\$20/ton CO₂), additional global co-benefits result from the diminished formation of tropospheric ozone, which have health and agricultural impacts. Benefits of a Brazilian national MSW program include 240 to 460 lives saved globally and US\$9.4 to US\$17.8 million of avoided crop losses (US\$18,000 to 34,000 in Brazil), depending on extent of MSW program. In addition to the carbon finance opportunity, the investment in the Brazilian economy (US\$1 to US\$2 billion/year) coupled with the co-benefits, electricity generation (0.5 to 1.1 percent of national power demand), employment benefits (44,000 to 83,000 new jobs), compost, and recycling products have

¹ In September 2013 the World Bank released a report on integrating SLCPs into its portfolio at the request of the G8. Examples presented on transportation and solid waste management are taken from that report. See: <http://www.worldbank.org/en/news/feature/2013/09/03/cutting-short-lived-climate-pollutants-win-win-health-climate>

additional benefits of between US\$8 and US\$20 billion on the macroeconomy over the 30-year investment period. [See footnote 1].

- **Carbon markets** - The portfolio of methane-reducing carbon finance projects implemented through the World Bank's carbon funds also provide a unique opportunity to quantify the health and agricultural co-benefits for this portfolio of 52 projects (as of 2012). For an investment of approximately US\$543 million in these projects, US\$228 million of direct carbon finance benefits are derived from the nearly 375,000 tons of methane emission avoided each year. Additional cobenefits include 150 incidences of premature mortality avoided through global improvements to air quality (using a U.S. value of statistical life, this benefit is nearly US\$1 billion). In addition, nearly 33 thousand tons of crop losses will be avoided with a market value of US\$5.8 million. [See footnote 1].

Conclusions – The examples presented demonstrate the potential for emission reductions and delivering development co-benefits in World Bank projects. Added together, the development benefits and co-benefits outweigh costs and highlight economic viability. However, implementing such projects at scale presents challenges at the country level such as a lack of adequate financing, technical, and institutional capacity. Capacity building and institutional strengthening are often integrated into World Bank activities at the project level and we have seen increasing emphasis on low carbon and climate resilient development planning in sectors with high mitigation potential, through instruments such as the Energy Sector Management Assistance Program (ESMAP) that has supported countries to assess opportunities for economy wide emissions reduction; the Climate Investment Funds that have integrated strategic planning and investment process across their program; and commitments through the replenishment of IDA to support at least 25 countries to implement multi-sectoral plans and investments for managing climate and disaster risk in development where we're not already doing so. These are important underpinnings that can help ensure sustainable development benefits are harnessed. The World Bank would be happy to provide additional information on our programs and/ or associated lessons and experience.